



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1870
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,506	08/29/2001	Shin Kameyama	HITA.0100	5251

7590 08/22/2005

Stanley P. Fisher
Reed Smith Hazel & Thomas LLP
Suite 1400
3110 Fairview Park Drive
Falls Church, VA 22042-4503

EXAMINER

SHINGLES, KRISTIE D

ART UNIT	PAPER NUMBER
----------	--------------

2141

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,506

Applicant(s)

KAMEYAMA ET AL.

Examiner

Kristie Shingles

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

5-0-0

DETAILED ACTION

Response to Amendment

*Applicant has amended claims 1, 5-12 and 14. Claim 15 is new.
Claims 1-15 are pending.*

Drawings & Specification

1. The proposed drawing corrections filed 5/18/2005 have been accepted by the Examiner.
The corrections to the drawings will not be held in abeyance.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 12, 14, 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2141

4. Claims 1, 2 and 5-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Krueger et al* (USPN 6,247,041) in view of *Dukach et al* (USPN 6,609,159) and further in view of *Bookman et al* (USPN 6,801,938).

a. Per claims 1, 12 and 14 *Krueger et al* teach a data transfer method for a data processing system which allows both processes to be executed in a first data processor and in a second data processor to communicate with each other by direct data transfer between user-spaces of the data processors, wherein communication via a first connection between a first process in the first data processor and a second process in the second data processor is taken over by a second connection between a third process in the first data processor and the second process to continue the communication;

- the method comprising: a first step in which the first process and the second process intermit the communication via the first virtual interface connection (Fig.2, 3 and col.3 line 66-col.4 line 64);
- a second step in which the second virtual interface connection is newly established between the third process and the second process in response to a request from the first process; and (col.5 line 30-col.6 line 43).

Krueger et al teach the child process inheriting the attributes and communication from the parent process and begins executing the program (col.5 lines 44-62, col.8 lines 25-31 and col.12 lines 1-36), yet fail to distinctly teach virtual interface—a first virtual interface connection and a second virtual interface connection and a third step in which the second virtual interface connection takes over the communication from the first virtual interface connection in response to a request from the first process to continue the communication. However, *Bookman et al* teach implementing virtual port connections for the conductor and player processes and also

Art Unit: 2141

teach the method of a player process that has an established virtual port connection and takes over communication from the leader process to form and continue communication via its own port (col.11 lines 53-65, col.12 lines 28-59); while *Dukach et al* teach the method of a second process that has an established connection and takes over communication from the first process to form and continue communication via its own socket (col.9 line 53-col.10 line 30, col.16 line 43-col.17 line 30 and col.21 line 57-col.22 line 3)..

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of *Krueger et al*, *Bookman et al* and *Dukach et al* for the purpose of implementing virtual ports in order to make logical connections between the processes and allowing the child/player (third) process to off-load the processing duties from the parent/leader/conductor (first) process by forming its own virtual port communication via another non-interfering connection/interface because it would aid in load balancing and increasing the processing speed.

b. **Per claim 2**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Krueger et al* further teach the method, wherein the third process is created by a process creating function (col.6 lines 21-25; the operating system is capable of creating the child process).

c. **Per claim 5**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Booker et al* further teach the method, wherein the second step includes a procedure for either the second process or the third process or both to report establishment of the second virtual interface connection to the first process (col.11 line 60-col.12 line 10; *Dukach et al*: col.10 lines 13-65 and col.20 lines 35-63).

d. **Per claim 6**, *Krueger et al* teach the data transfer method as defined in claim 1, wherein issuance of a request for establishment of the second virtual interface connection at the second step is triggered by occurrence of an expected event in the first process (Abstract and col.5 lines 30-35).

e. **Per claim 7**, *Krueger et al* teach the data transfer method as defined in claim 1, wherein issuance of a request for establishment of the second virtual interface connection at the second step is triggered by occurrence of an unexpected event in the first process (Abstract and col.5 lines 21-43).

f. **Per claim 8**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Booker et al* further teach the method, wherein the first process detects and memorizes occurrence of data reception in that process before the establishment of the second virtual interface connection (col.9 line 14-col.10 line 21, col.11 lines 36-65, col.12 lines 2-44; *Dukach et al*: col.9 lines 26-43, col.11 lines 13-35, col.16 line 50-col.17 line 9).

g. **Per claim 9**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Dukach et al* further teach the method, wherein, when the first process detects occurrence of reception of data in that process before the establishment of the second virtual interface connection, it issues a report of the detection to the third process (col.9 line 14-col.10 line 21, col.11 lines 36-65, col.12 lines 2-44).

h. **Claim 10** is substantially similar to claim 9 and is therefore rejected under the same basis.

i. **Per claim 11**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Dukach et al* further teach the method as defined in claim 1,

Art Unit: 2141

wherein the first virtual interface connection is turned off after the establishment of the second virtual interface connection (col.13 lines 6-55).

j. **Per claim 13**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the data transfer method as defined in claim 1, *Dukach et al* further teach the method as defined in claim 1, wherein the method is implemented by an emulation library programmed so as to emulate the operation for socket communication and, communication can be made by executing the emulation library in the first and second data processors respectively, without the need for a change in user programs for socket communication to be executed by the first and second data processors respectively (col.8 lines 15-65, col.10 lines 13-65 and col.13 lines 25-38).

5. Claims **3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Krueger et al*, *Dukach et al* and *Booker et al* further in view of *Lurndal* (USPN 6,424,988).

a. **Per claim 3**, *Krueger et al*, *Dukach et al* and *Booker et al* teach the method of claim 1 as applied above, yet fail to explicitly teach the data transfer method as defined in claim 1, wherein the first step includes: a procedure for the first process to issue a request for intermission of data transmission to the second process; and a procedure for the second process to intermit data transfer to the first process in response to the request and, upon completion of intermission, issues a report of completion of intermission to the first process. However, *Lurndal* teaches a first process issuing a slot request to a second process, the second process receives the request and responds by allocating the appropriate slot requested by the first process, the second process then returns a successful reply message indicative of a completion of intermission message to the first process (col.11 line 66-col.12 line 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Krueger et al*, *Dukach et al*, *Booker et al* and *Lurndal* to institute a request-respond-and-reply correspondence between the first and second processes because it would assure and acknowledge the integrity of the intermission communication—that requests are adequately processed, transferred and fulfilled in an efficient manner.

b. **Per claim 4**, *Krueger et al*, *Dukach et al*, *Booker et al* and *Lurndal* to teach the method of claim 3, *Dukach et al* further teach the data transfer method as defined in claim 3, wherein the first process memorizes the existence of operation for data reception after it requests the second process to intermit data transfer; and after it receives the report of completion of intermission, it copies the data received by the operation for data reception to the third process (col.9 line 52-col.10 line 11 and col.16 lines 43-63; with the emulation of the fork procedure, the child process is identical to its parent—the parent process thus stores data and with the creation of a separate process space for the child, it copies all of its variable, data structures and file descriptors to pipes and network communications).

c. **Claim 15** contains limitations that are substantially similar to claims 1 and 3-5 and are therefore rejected under the same basis.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: *Bender et al* (USPN 6,111,894), *Wesemann* (USPN 6,434,594), *Beckerle et al* (USPN 6,311,265), *England et al* (USPN 6,769,119) and *Passera et al* (USPN 5,909,681).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2141

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds


RUPAL DHARIA
SUPERVISORY PATENT EXAMINER